PRODUCT PERFORMANCE / EFFICACY REVIEW

Mark Suarez, Entomologist - IB

DATE:	18 December 2007
EPA REG. NUMBER:	1021-RILI
PRODUCT NAME:	MGK F-2862
REGISTRANT:	MGK Co.
PM:	George LaRocca, PM13
REVIEWER:	BeWanda Alexander
DECISION #.:	371662
DP BARCODE:	335618
ACTION:	R32
ACTIVE INGREDIENT(S):	128825, Bifenthrin…….0.1%
TYPE:	Dust
OPPTS GUIDELINE(S):	810.3500

MRID:	46968210	Submitted	GLP? No
	46968211	Submitted	GLP? No
	46969212	Submitted	GLP? No
	47023601	Submitted	GLP? No

SITES & PESTS	Indoors	Ants (incl. Pharaoh & Carpenter), Bed Bugs, Centipedes, Cockroaches, Dust Mites, Fleas, Spiders, & Ticks
	Outdoors	Ants, Bees, Centipedes, Fleas, Spiders, & Ticks

STUDY APPLICATION RATE:	Variable; see individual reviews
LABEL APPLICATION RATE:	Indoors, General: 2 g/yd^2 or 0.5 lb/1000 ft^2 (2.39x10^{-3} or 2.44x10^{-3} g AI/m^2, respectively) Cockroaches, Spiders, Centipedes, Lice: 1.5 oz/100 ft^2 (4.58x10^{-3} g AI/m^2) Outdoors: not specified

STUDY SUMMARY(IES):

MRID 46968210. Schlekau, J. (2006) Product Performance/Efficacy Report - German Cockroaches using MGK F-2862. Unpublished study prepared by McLaughlin Gormley King Co. 35 p.

The data presented in MRID 46968210 were submitted in an effort to support claims against German cockroaches. The efficacy of the 0.1% bifenthrin subject formulation was tested at the rate of 2, 4, and 6 g/yd^2 ($2.39x10^{-3}$, $4.78x10^{-3}$, and $7.17x10^{-3}$ g/m^2) against 5 replicates of 10 adult male cockroaches per rate. Insects were forced to contact treated surfaces for 1 hour.

The mean 1-hour knockdowns and 24-hour mortalities (both 100%) provided indicate that the product is efficacious against German cockroaches.

MRID 46968211. Schlekau, J. (2006) Product Performance/Efficacy Report - German Cockroaches, Cat Fleas and Deer Ticks: MGK F-2862. Unpublished study prepared by McLaughlin Gormley King Co. 53 p.

The data presented in MRID 46968211 were submitted in an effort to support claims against German cockroaches, cat fleas, and deer ticks. The efficacy of a 0.05% test formulation (identified only as X-5879-04) was tested at the rate of 2 g/yd^2 ($1.2x10^{-3}$ g AI/m^2) against 10 replicates of 10 adult male cockroaches, 10 replicates of 5 striped-tailed scorpions, 10 replicates of 10 adult cat fleas, and 10 replicates of ten laboratory-reared unfed nymphal deer ticks. Insects were forced to contact treated surfaces for 1 hour.

The mean 1-hour knockdowns and 24-hour mortalities were insufficient to support for German cockroaches, cat fleas, or scorpions. The deer tick data were sufficient to support a claim that the product kills deer ticks. These data were generated below the label application rate, so the failure of the product to produce adequate mortality in German cockroaches does not bring the results of the study discussed above into question.

MRID 46968212. Schlekau, J. (2006) Product Performance/Efficacy Report - Carpenter Ant, Cat Flea, Cellar Spider and Bark Scorpion using MGK F-2862. Unpublished study prepared by McLaughlin Gormley King Co. 27 p.

The data presented in MRID 46968212 were submitted in an effort to support claims against carpenter ants, cat fleas, cellar spiders, and bark scorpions. The efficacy of 0.3g of the 0.1% bifenthrin subject formulation applied as a dust against 4 replicates of 10 carpenter ants, 4 replicates of 10 cat fleas, 10 replicates of 10 cellar spiders, and 10 replicates of 10 bark scorpions. Insects were directly powdered with the dust.

The mean 24-hour mortalities were adequate to support a direct application kill claim for carpenter ants. The data for cat fleas were insufficient, as the control mortality reached 10% and the treatment mortality was only 90%, dropping the percent mortality below 90% after applying Abbott's formula. The bifenthrin product was not adequately efficacious against cellar spiders or bark scorpions (82 and 20% mortality, respectively) to support inclusion of these taxa on the label.

MRID 47023601. Schlekau, J. (2006) MGK F-2862: Product Performance/Efficacy Report - Bed Bugs. Project Number: 014/0319, N0140106001A992. Unpublished study prepared by Insect Control and Research Inc. 30 p.

The data presented in MRID 47023601 were submitted in an effort to support claims against bed bugs. The efficacy of 0.012g of 0.1% bifenthrin applied to each side of a piece of filter paper (i.e., $2g/yd^2$ or $2.39x10^{-3}$ g AI/m^2) against 5 replicates of 10 mixed sex bed bugs.

The mean 24-hour mortality was adequate (100%) to support a direct application kill claim for bed bugs. No mortality was reported for the controls.

ENTOMOLOGIST'S COMMENTS AND RECOMMENDATIONS

The data provided were the result of trials in which bifenthrin dust was applied either directly to insects, insects were forced to contact a recently treated surface for 1 hour, or insects were maintained in containers with the treated surface for 24 hours (bedbugs only). Within 24 hours, the mortality observed in the treatment and control groups was adequate to support kills claims against the following pests of public health concern:

1. German cockroaches
2. Deer Ticks
3. Bed bugs

The data submitted provided no information about the residual activity of the product or the speed with which it works. Therefore, these claims (i.e., fast, rapid, quick, etc… and control, residual, long term, etc…) must be removed from the label. Kills claims are allowed for general pests and the aforementioned pests of public health concern.

Specific label issues are presented below:

1. The following pests of public health concern are not supported. Remove any reference in the labeling to the following pests:
    a. Cockroaches
    b. Fleas
    c. Ticks
    d. Spiders
    e. Ants (except carpenter ants)
    f. Waterbugs
    g. Palmetto bugs
    h. Brown dog ticks
    i. Lone star ticks
    j. Pharaoh ants
    k. American dog tick
    l. Gulf coast ticks

m. Centipedes
n. Smoky brown cockroach
o. Brown banded cockroach
p. Asian cockroach
q. Lice
r. Bees

2. Remove the following text:
    a. Provides quick control…
    b. Acts as a barrier…
    c. Waterproof (may use "water resistant")
    d. ...quick [fast][rapid] control
    e. Controls
    f. Provides quick kill [control] and long term [residual] control
    g. This product provides fast, effective control [kill] of…
    h. "on contact" (may be revised to read "through contact")
    i. [including, but not limited to][such as]

3. In the directions for use, clarify the 4th paragraph to read that the 2 g/yd^2 is to be applied to kill listed insects. ("…apply a small amount of material…" and Apply lightly and uniformly to infested areas…" are ambiguous directions.) The application rate would most likely be easier for the user to follow if provided as cups, tablespoons, or teaspoons per unit area.

Enclosure
001021-00RILI S803577-ER